MC0077

HOSPITAL BUILDING NOTE

12

OUT-PATIENT DEPARTMENT

MINISTRY OF HEALTH : LONDON : HER MAJESTY'S STATIONERY OFFICE
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Out-Patient Department

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Appendix

An addendum to Appendix E of Hospital Building Note No. 2, *The Cost of Hospital Buildings*, which sets out cost recommendations for the Out-Patient Department is supplied with this Building Note.

Hospital Building Note No. 2.

Appendix E

Out-patient Department

Hospital Building Note No. 12

The scales of accommodation and cost recommendations are applicable to out-patient departments at non-teaching hospitals.

A. Basic accommodation

(*a*) *Consulting facilities*

(i) Combined consulting-examination rooms
and/or
Consulting room with separate examination rooms
(ii) Clinical room
(iii) Clean utility room
(iv) Dirty utility room
(v) Test room
(vi) Sister's Office
(vii) Reception and waiting space
(viii) Trolley and wheel chair store
(ix) Room for porters and ambulance drivers
(x) Pram store
(xi) Patients' sanitary facilities
(xii) Staff sanitary facilities
(xiii) Store(s)
(xiv) Cleaners' room(s)
(xv) Circulation space necessary for the above accommodation.

(*b*) *Operating theatre suite* (if required)

(i) Operating theatre
(ii) Anaesthetic room
(iii) Scrub-up
(iv) Sterile supply room
(v) Sink room
(vi) Sister's office
(vii) Reception
(viii) Waiting space
(ix) Staff rooms
(x) Store(s)
(xi) Cleaners' room
(xii) Plant room
(xiii) Circulation space necessary for the above accommodation.

(*c*) *Day ward* (if required)

(i) Bed space
(ii) Day space
(iii) Clean utility room
(iv) Dirty utility and sluice room
(v) Kitchen
(vi) Linen bay
(vii) Male and female patients' sanitary facilities
(viii) Nurses' station
(ix) Store(s)
(x) Cleaners' room
(xi) Circulation space necessary for the above accommodation.

(*d*) *Dental suite* (if required)

(i) Surgery
(ii) Recovery room
(iii) Work room
(iv) Store(s)
(v) Waiting space
(vi) Circulation space necessary for the above accommodation.

B. Additional accommodation

(*a*) Treatment room for specialised clinics
(*b*) Rooms for auxiliary and technical staff
(*c*) Audiometry room (E.N.T. clinic)
(*d*) Electro-cardiogram room (Cardiological clinic)
(*e*) Electro-encephalogram room (Psychiatric and neurological clinics, etc.)
(*f*) Refractionists' room (Ophthalmic clinics)
(*g*) Orthoptists' room (Ophthalmic clinics)
(*h*) Ophthalmic examination room (Ophthalmic clinics)
(*i*) Central dental laboratory
(*j*) Dental office
(*k*) Patients preparation and recovery room
(*l*) Changing cubicles for patients
(*m*) Sister's office
(*n*) Waiting space for children
(*o*) Room or bay for patients waiting for ambulance

Circulation space

For the purpose of the provisional cost limit the area occupied by internal circulation space and internal walls and partitions represents, on average, the following percentage additions to the net floor of the basic and additional accommodation in each of the undermentioned groups:—

Consulting facilities	—	55 per cent.
Operating theatre suite	—	45 per cent.
Day ward	—	35 per cent.
Dental suite	—	35 per cent.

DEPARTMENTAL COST ALLOWANCES

1. Basic accommodation

Functional unit—An O.P.D. unit of £650 used as follows:—

(*a*) *Consulting suite*

For the first 36 doctor sessions per week	—	Allow 56 units
For each additional doctor session per week	—	Allow 1 unit

(*b*) *Operating theatre suite*

For a single theatre suite	—	Allow 39 units
For two theatre suites (See notes (*a*)(ii) below)	—	Allow 63 units

(*c*) *Day ward*

For the first 8 beds in a day ward	—	Allow 23 units
For each additional bed	—	Allow $1\frac{1}{2}$ units

(*d*) *Dental suite*

For the first surgery	—	Allow 7 units
For each additional surgery	—	Allow 4 units

2. Additional accommodation

Cost of additional accommodation—Allow £5 2s. 0d. per square foot.

Note: Engineering

(i) *Consulting suite*

The following engineering services are included in item 1(*a*) above and account for approximately 22-25 per cent of the total cost:—

Space heating throughout

Ventilation as described in Building Note No. 12

Hot, cold and drinking water

Steam and condense; gas and fire fighting services

Lighting, power, clocks, telephones, staff call and fire alarm systems

Instrument steriliser, tea boiler and dish washing machine.

(ii) *Operating theatre suite*

The following engineering services are included in item 1(*b*) above and account for approximately 38-40 per cent of the total cost:—

Mechanical and electrical services in accordance with Hospital Building Bulletin No. 1. No provision has been made for sterilising equipment other than a small bowl and instrument steriliser. If no C.S.S.D. is available for use with the theatre accommodation the following allowances should be added to the cost allowances for operating theatre suites.

Sterilising equipment for single theatre — Allow 1 unit

Sterilising equipment for two theatres — Allow 2½ units

Piped medical gases have not been included in the allowances.

Where an existing central system can be extended and is preferred in lieu of trolley gases, the following allowances should be added to the cost allowances for operating theatre suites.

Piped medical gases for one theatre — Allow 1½ units

Piped medical gases for two theatres — Allow 2 units

(iii) *Day ward*

The following engineering services are included in item 1(*c*) above and account for approximately 32-34 per cent of the total cost:—

Space heating including supplementary heating for day rooms and single bed wards

Simple extract ventilation where required

Hot, cold and drinking water

Piped oxygen and vacuum in single bed wards and for a proportion of the beds in multiple bed wards

Fire fighting service

Lighting, power, telephone, clocks, staff and patients call systems and fire alarm systems.

Electric or gas cooker, bed pan warmer and steriliser, dish washing machine.

(iv) *Dental suite*

The following engineering services are included in item 1(*d*) above and account for approximately 35-40 per cent of the total cost:—

Space heating

Hot, cold and drinking water

Fire fighting services

Lighting, power, telephones and clocks

Instrument steriliser—one to each two surgeries.

(v) *Telephones*

The allowance in the cost limit for telephones is based on the cost of telephones installed on a rental basis.

I. Scope

This Building Note gives guidance on the facilities required for the consultation with examination and treatment of out-patients at a non-teaching general hospital. Specialised facilities such as pathology and diagnostic x-ray are dealt with in other Building Notes.

II. General considerations

Attendance at an out-patient department is often a patient's first introduction to a hospital, and a pleasant building, well designed and decorated, devoid of an institutional atmosphere will contribute to confidence and allay fears.

The siting of the out-patient department should be carefully considered. The external approach, the relation to other hospital departments, e.g. diagnostic x-ray, pathology, physical medicine and the pharmacy which may serve both in and out-patients, and the possibility of future expansion are all important.

An approach road with a wide footpath should lead to the main entrance of the department, and patients arriving by ambulance should be able to enter the building under cover. It should be possible to park ambulances and the cars of staff and patients adjacent to the department.

The consulting suites and treatment areas preferably should be sited away from the noise of car parks.

It is desirable for out-patient departments to be planned on one floor at ground level, as patients may have difficulty in climbing stairs and some may require the use of stretchers and trolleys. It is also easier to enlarge or alter the department if the building is of single storey construction. But it may be necessary in some circumstances to have a building of more than one storey, with lifts.

It is important that both externally and internally the divisions and rooms of the out-patient department should be clearly sign-posted, as not only does this save unnecessary questioning but it gives the patient confidence.

Facilities for the investigation and treatment of day patients should be planned in association with the out-patients operating theatre suite with accommodation such as the reception and waiting spaces and staff sanitary facilities shared with the operating theatre suite.

Day patient facilities should include provision for diagnostic procedures, out-patient treatment and recovery. The types of procedure fall broadly into two categories: firstly minor operative procedures which may or may not be performed under a general anaesthetic, and secondly, time consuming investigations such as those which involve the collection of specimens for analysis over a period of several hours. For both these types of procedure patients may require some form of preparation and many of those who have had a minor operation will need a period for recovery before they are able to return home. The development of these facilities should ease the demand on in-patient accommodation.

A treatment centre for psychiatric patients may be sited either in the out-patient department or with the psychiatric department. This is dealt with in the Building Note on short-stay psychiatric units.

An orthopaedic and fracture clinic may be planned within the out-patient department, this clinic however is often associated with the casualty department and the planning will be dealt with in the Building Note on Accident and Emergency Departments.

Ante-natal clinics will usually be held in the maternity department and the planning will be dealt with in the Building Note on Maternity Departments.

It is not a function of the hospital service, apart from the special case of dental hospitals, to provide a dental service for the general public, but in all major out-patient departments a dental suite is required for consultative work and for the dental care of out-patients and in-patients where such care is a necessary part of the hospital treatment.

Figure 1. illustrates the route of patients through an out-patient department.

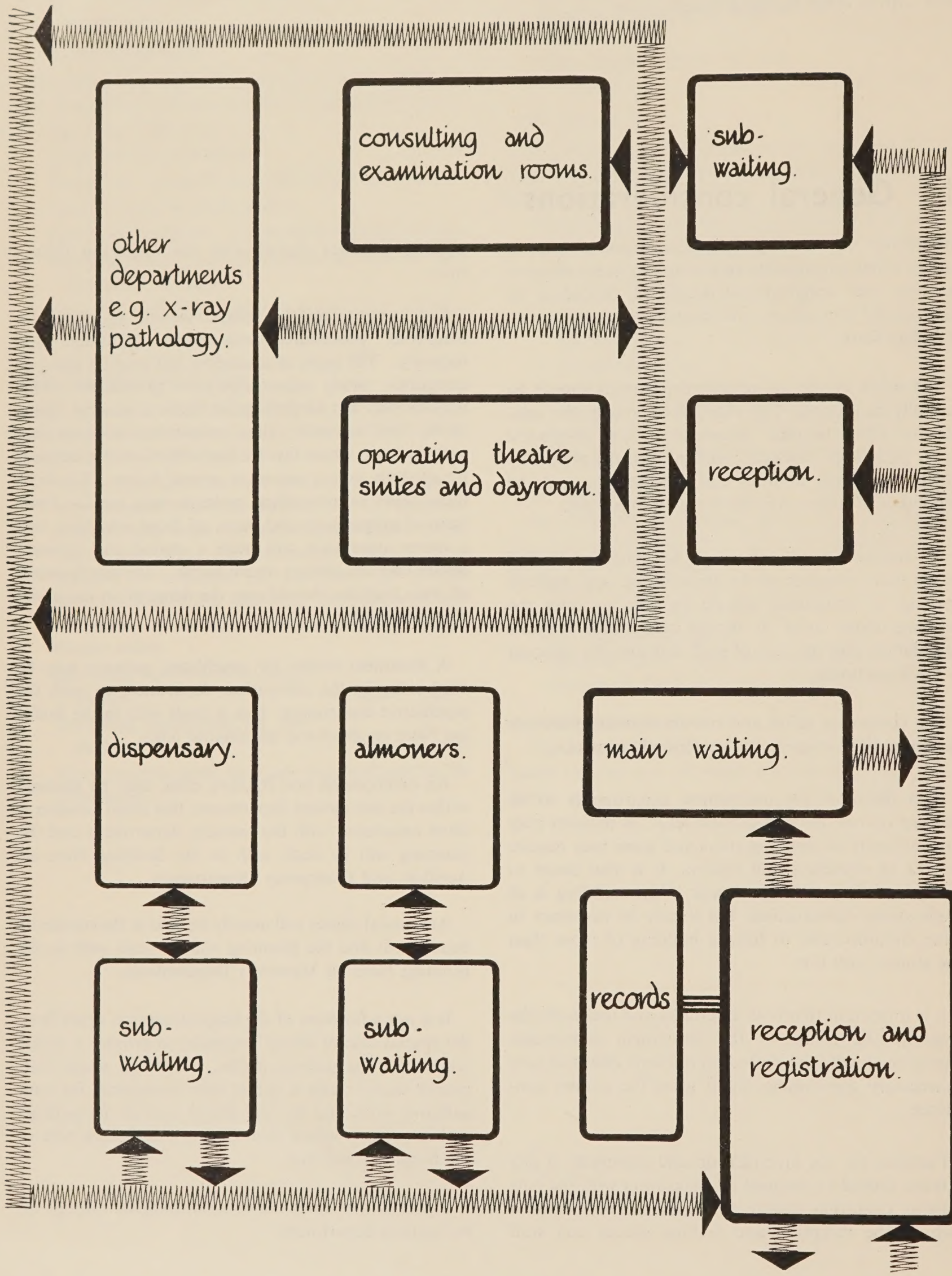

FIGURE 1. Diagram showing routes of patients.

III. List of rooms

The accommodation has been divided into two groups.

A. Basic accommodation

The basic accommodation has been sub-divided into four. For each subdivision that may be required the rooms listed below should always be provided.

(*a*) *Consulting facilities*

(i) Combined consulting-examination rooms
and/or
Consulting room with separate examination rooms
(ii) Clinical room
(iii) Clean utility room
(iv) Dirty utility room
(v) Test room
(vi) Sister's office
(vii) Reception and waiting space
(viii) Trolley and wheelchair store
(ix) Room for porters and ambulance drivers
(x) Pram store
(xi) Patients' sanitary facilities
(xii) Staff sanitary facilities
(xiii) Store(s)
(xiv) Cleaners' room(s)
(xv) Circulation space necessary for the above accommodation.

(*b*) *Operating theatre suite* (if required)

(i) Operating theatre
(ii) Anaesthetic room
(iii) Scrub-up
(iv) Sterile supply room
(v) Sink room
(vi) Sister's office
(vii) Reception
(viii) Waiting space
(ix) Staff rooms
(x) Store(s)
(xi) Cleaners' room
(xii) Plant room
(xiii) Circulation space necessary for the above accommodation

(*c*) *Day ward* (if required)

(i) Bed space
(ii) Day space
(iii) Clean utility room
(iv) Dirty utility and sluice room
(v) Kitchen
(vi) Linen bay
(vii) Male and female patients' sanitary facilities
(viii) Nurses' station
(ix) Store(s)
(x) Cleaners' room
(xi) Circulation space necessary for the above accommodation

(*d*) *Dental suite* (if required)

(i) Surgery
(ii) Recovery room
(iii) Workroom
(iv) Store(s)
(v) Waiting space
(vi) Circulation space necessary for the above accommodation

Functional unit

The functional unit selected for the basic accommodation in this note and the related cost note (supplied herewith as an addendum to Appendix E of Building Note No. 2) is related to:

doctor sessions	— for the consulting facilities
operating theatre	— for operating theatres
bed	— for day wards
dental surgery	— for dental surgeries

The term "doctor session" covers any session (half day) conducted by a clinician who holds a consultation with a patient: for example, a clinic conducted by a consultant assisted by a registrar would count as two "doctor sessions". The calculation of sessions does not include additional members of a team, for example, house officers who are working under the direct supervision of a consultant and not seeing patients on their own.

B. Additional accommodation

Some accommodation additional to the basic may be required, and the following are examples :

(*a*) Treatment room for specialised clinics
(*b*) Rooms for auxiliary and technical staff
(*c*) Audiometry room (E.N.T. clinic)
(*d*) Electro-cardiogram room (Cardiological clinic)
(*e*) Electro-encephalogram room (Psychiatric and neurological clinics etc.)
(*f*) Refractionists' room (Ophthalmic clinics)
(*g*) Orthoptists' room (Ophthalmic clinics)
(*h*) Ophthalmic examination room (Ophthalmic clinics)
(*i*) Central dental laboratory
(*j*) Dental office
(*k*) Patients preparation and recovery room
(*l*) Changing cubicles for patients
(*m*) Sister's office
(*n*) Waiting space for children
(*o*) Room or bay for patients waiting for ambulance

Offices for almoners, clerks, etc., which may be required as additional accommodation will be considered in the Building Note on the Administrative Department. The medical staff common rooms and changing rooms are also included in that note.

IV. Description of rooms

A. Basic accommodation

The Appendix tables 1 to 4 illustrates recommendations on the building up of a schedule of accommodation with room sizes.

(*a*) *Consulting facilities*

(i) *Consulting suite*

It is strongly advocated that wherever practicable a general purpose consulting suite should be used. For examples of possible layouts see Figs. 2, 3 and 4.

There are broadly two types of general purpose consulting suite, the first (type A) consisting of inter-communicating combined consulting-examination rooms and the second (type B) a consulting room used with examination rooms. Type A has greater flexibility in use.

(*i*) *Type A*. Each combined consulting-examination room should be large enough to have undressing and dressing facilities for the patient within the area itself, preferably space round a couch which can be screened off by a curtain. An area of 170 sq. ft. is recommended, for each room. Figure 2 shows a typical layout.

(*ii*) *Type B*. It is generally advisable to allow an average of between one and two examination rooms to serve one consulting room. The consulting room should be 120 sq. ft. with 90 sq. ft. for each examination room. Figures 3 and 4 show typical arrangements.

The consulting rooms should be equipped with a consultant's desk or table, chairs, lavatory basin, adjustable light and x-ray viewing screen. Some specialties will require storage for additional equipment for their clinics, such as sight testing apparatus and weighing scales. A couch for the patient and a trolley for instruments will also be required in the examination room, or in the examination part of the combined consulting-examination room suite.

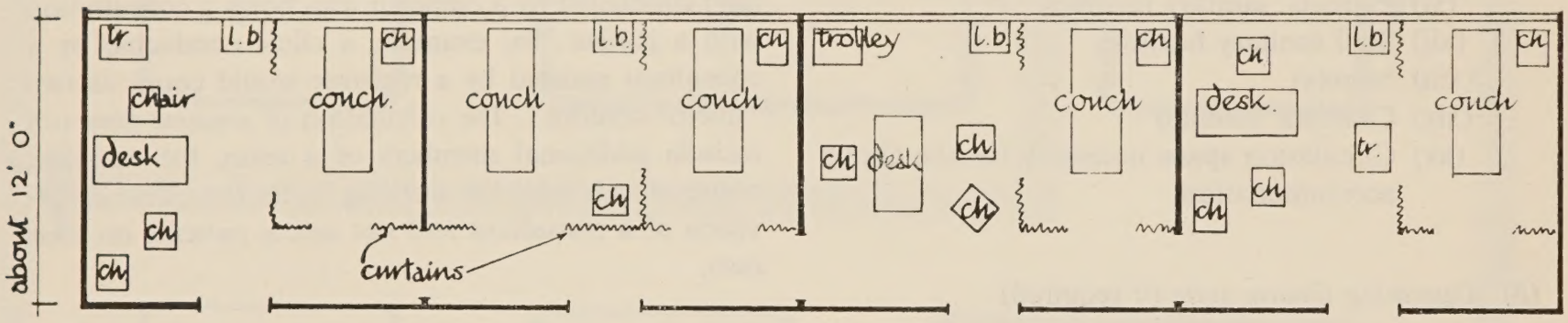

FIGURE 2. Group of four combined consulting examination rooms suitable for eighteen "doctor sessions" per week. One of the consulting rooms is shown with the furniture re-arranged to allow for an additional examination couch with corresponding loss of doctor's desk.

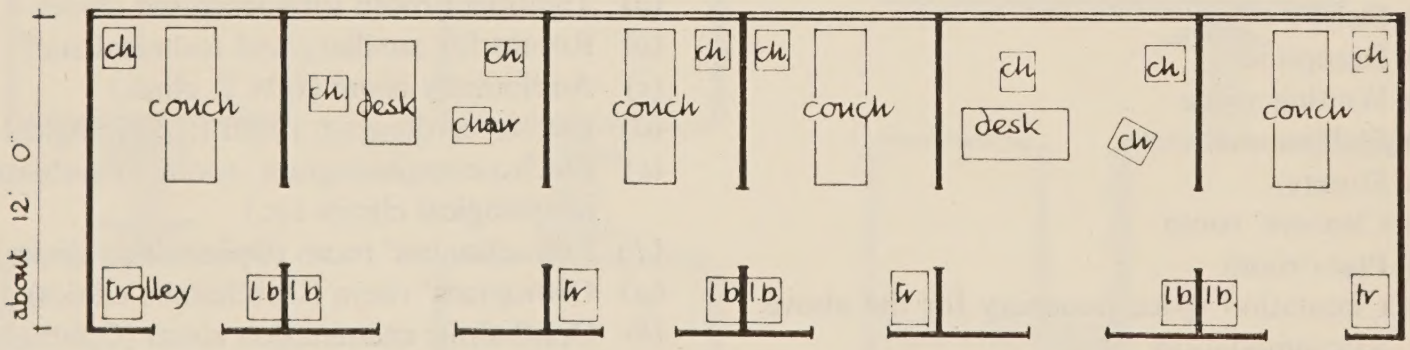

FIGURE 3. Group of two consulting rooms with four examination rooms, suitable for eighteen "doctor sessions" per week.

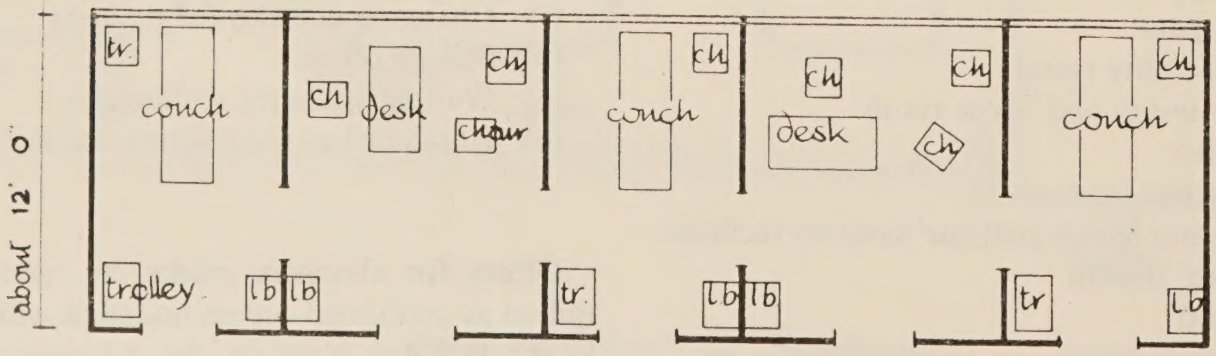

FIGURE 4. Group of two consulting rooms with three examination rooms, suitable for eighteen "doctor sessions" per week.

(ii) *Clinical room*

This is for minor treatments carried out by doctors and nurses and can also be used for the re-application of patients' dressings after attendance at a clinic. It should be about 170 sq. ft. and equipped with a couch and chair, an adjustable lighting fitting and a surgeon's lavatory basin with elbow-operated spray taps.

(iii) *Clean utility room*

When central sterilising facilities are available the clean utility rooms would be used for the reception of supplies from the C.S.S.D. and as an issuing store to distribute supplies to clinical and consulting rooms.

If the hospital has no central sterilising facilities and bowls and instruments are to be sterilised in the department, one of the clean utility rooms should be equipped with a pressure-steam steriliser.

An area of 170 sq. ft. is recommended in any event.

The number of clean utility rooms required is dependent on the number and grouping of consulting suites. One clean utility room should adequately serve up to sixteen combined consulting-examination rooms, but an increase in consulting rooms would probably require an additional clean utility room. An out-patient department with more than thirty two consulting rooms would probably require three clean utility rooms. (See table 1).

(iv) *Dirty utility room*

Regardless of whether there are central sterilising facilities or not, one or more rooms are required for the reception of used instruments and bowls, and for the disposal of dressings, etc. from consulting rooms, clinical rooms and treatment rooms. About 110 sq. ft. is required and the room should be fitted with a sink, slop sink, drainer and working top.

The number of rooms required is linked to the number of consulting suites and the ratio should be the same as for the clean utility room.

(v) *Test room*

Facilities for urine testing and other simple pathological tests will be required. As many clinics require a large number of routine urine tests it is desirable to plan a unit, for each sex, containing a w.c. and wash-hand basin, adjacent to the test room. It is convenient to have a communicating double hatch in the partition between these lavatories and the test room. About 100 sq. ft. is required for the test room and about 25 sq. ft. for each lavatory.

(vi) *Sister's office*

Sisters in charge will need an office of at least 100 sq. ft. for interviewing staff and relatives and preparing reports.

(vii) *Reception and waiting space*

(*a*) *Entrance lobby*

An entrance lobby with double swing doors is desirable between the entrance and the main waiting space.

(*b*) *Reception*

The reception counter should be in a prominent position near the entrance. There clerks will deal with registration of patients, appointments and transport facilities.

Each clerk will require at least 4 ft. length of counter with adequate drawers and shelving space. The counter should either be placed so that the individual positions are staggered or some form of screening provided to give privacy. An area of 60 sq. ft. is recommended as the minimum working space for each clerk, allowing for circulation behind the counter. The reception areas should have direct communication with the medical records department, which will be dealt with in the Building Note on the Administrative Department.

(*c*) *Waiting space*

This should be planned with the entrance and reception counters. A tea bar should be provided adjoining this area. One or more public telephone boxes are required in a prominent position. Lavatory accommodation for both male and female patients should be easily accessible.

(*d*) *Sub-waiting space*

Subsidiary or sub-waiting spaces should normally be provided outside groups of consulting rooms, and almoners' offices, etc.

A counter or table is required outside groups of consulting rooms, where patients' notes can be assembled and messages for the clinic received. It is usually convenient if this is planned in the sub-waiting areas.

Total area of waiting space

It is suggested that the total number of persons, i.e. patients and their companions, for whom waiting space will be required at one time will be about half of the total estimated attendance of patients for the maximum morning or afternoon session at the department. An area of 15 sq. ft. per person is a reasonable allowance and this should be divided into the main and sub-waiting spaces according to planning considerations. This recommended area is for the actual "waiting" space and a further allowance should be made in the main waiting space for the tea bar. General circulation space is not included in this area.

The Appendix gives examples of the calculation and division of the waiting spaces.

(viii) *Trolley and wheelchair store*

Wheelchairs and trolleys should be readily available near the entrance for anyone requiring them on arrival.

(ix) *Room for porters and ambulance drivers*

A room of at least 100 sq. ft. is required near the entrance hall for porters and ambulance drivers.

(x) *Pram store*

A store for prams is required near the main entrance. Not less than 150 sq. ft. should be provided.

(xi) *Patients' sanitary facilities*

Patients' lavatories should be planned in groups at convenient points in the building on the following ratio to every 4-6 combined consulting-examination rooms:—

1 w.c. and 1 lavatory basin for females

1 w.c., 1 urinal stall and 1 lavatory basin for males

An alternative method of calculating the approximate provision is to allow a ratio of 1 w.c. and 1 lavatory basin for every 20-30 female patients attending a morning or afternoon session and 1 w.c., 1 urinal stall and 1 lavatory basin for every 20-30 male patients attending a morning or afternoon session.

(xii) *Staff sanitary facilities*

Several different categories of staff may be employed within the group of consulting facilities. Sanitary facilities, for each sex, are required on the following basis:—

Men: 1 w.c. 1 urinal and 1 wash hand basin for every fifteen persons.

Women: 1 w.c. and 1 wash hand basin for every twelve persons.

(xiii) *Store(s)*

General storage for the out-patient department will be included in the central stores in the main hospital, but some provision must be made within the department for the day to day stock of linen, blankets and expendable items. General purpose consulting suites and rooms for technical and auxiliary staff will require storage space for equipment and this should be planned in cupboards off the suites and rooms concerned.

(xiv) *Cleaners' room(s)*

A cleaners' room is required with a bucket sink, drainer, locker and space for mechanical cleaning equipment, brooms, buckets etc., 50 sq. ft. should suffice. Large departments, particularly those on more than one floor, will require more than one.

(xv) *Circulation space*

Corridors should be at least 7 ft. wide in the clear.

(*b*) *Operating theatre suite* (if required)

The operating theatre suites should in general follow the recommendations made in "Hospital Building Bulletin No. I Operating Theatre Suites and those which will be made in the Building Notes on Operating Theatre Departments.

(i) *Operating theatre*

Operating theatres should have an area of approximately 324 sq. ft. (18 ft. × 18 ft.) and a minimum ceiling height of 10 ft. to allow adequate mobility of the centre light fitting.

(ii) *Anaesthetic room*

This should be planned adjacent to the operating theatre. The built-in equipment required is usually a sink, drainer and worktop with high level cupboards for materials and instruments. About 170 sq. ft. is needed.

(iii) *Scrub-up*

These facilities should be planned in a separate lobby or room outside the theatre and not in the theatre.

(iv) *Sterile supply room*

Under current practice the theatre instruments are sterilised near the theatre under the supervision of the theatre sister but the trend is towards the use of a central sterilising supply department. A room is required for the issue of sterile supplies to the theatres and an area of about 120 sq. ft. should be sufficient for each theatre. A larger area of about 170 sq. ft. may be needed if the instruments are sterilised in this room. The room should be adjacent to the theatre(s). See Section V "Engineering Services."

(v) *Sink room*

The sink room should be approximately 110 sq. ft. per theatre and adjacent to the theatre(s). It should be equipped with a sink, slop sink and drainer, and work top.

(vi) *Sister's office*

An office of about 100 sq. ft. is required for the sister in charge of the operating suites.

(vii) *Reception*

A reception point and waiting space is required for patients arriving for treatment and for their companions. 200 sq. ft. is recommended for a suite containing one theatre, 300 sq. ft. where there are two theatres.

(viii) *Waiting space*

Space is required for patients waiting for treatment.

(ix) *Staff rooms*

Different categories of staff are employed in an operating suite, and a minimum of two changing rooms, one for each sex, is recommended.

At least one w.c., lavatory basin, shower, changing cubicle and several lock-up cupboards for clothes should be provided in each changing room.

Staff rest rooms are also required, adjacent to the changing rooms. Where a day ward is used in conjunction with the operating theatre suite it is suggested that the ward staff should share the theatre staff sanitary facilities.

(x) *Store(s)*

This is required for equipment, supplies etc.

(xi) *Cleaners' room*

A cleaners' room is required with a bucket sink, drainer, locker and space for mechanical cleaning equipment, brooms, buckets etc., 50 sq. ft. should suffice. Large departments, particularly those on more than one floor, will require more than one.

(xii) *Plant room*

Space is required for engineering plant for the operating theatre suite. The sizes recommended in Hospital Building Bulletin No. 1 "Operating Theatre Suites" are considered inadequate to contain the necessary plant

which is now required for theatre suites. An area of at least 500 sq. ft. is recommended for one theatre increasing to 700 sq. ft. for two theatres.

(*xiii*) *Circulation space*

Corridors should be at least 7 ft. wide in the clear.

(*c*) *Day ward* (if required)

(i) *Bed space*

There should be at least one single bed room of 120 sq. ft. and the other beds should be planned in groups of 2, 3, 4, etc. About 80 sq. ft. per bed should be allowed for the latter.

(ii) *Day space*

This should be provided for patients who do not require recovery beds and those who have recovered sufficiently to sit up before going home. It can also be used for meals. The area should be related to the number of beds.

(iii) *Clean utility room*

A room of about 110 sq. ft. will be needed for the preparation of medicines and injections, laying up trolleys, and storing small supplies of sterile packs and instruments.

(iv) *Dirty utility and sluice room*

The dirty utility and sluice room can be combined. A room of about 120 sq. ft. will be needed for the reception of used instruments and bowls, disposal of dirty dressings, dirty linen for emptying, cleaning and storing bedpans and urine bottles and the necessary equipment for this purpose.

(v) *Kitchen*

A small kitchen will be required for the distribution of meals, and the preparation of beverages. About 100-120 sq. ft. should be provided.

(vi) *Linen bay(s)*

It is agreed practice to provide a centralised linen supply with day to day working stock of linen held where it is needed. This stock can be stored in bays each about 50 sq. ft. in area. These bays could if suitably placed also supply the clean linen for the operating theatre suite.

(vii) *Male and female patients' changing accommodation, showers and w.c.*

Provision should be made for patients to change before treatment, and to tidy up before going home. Changing cubicles with a minimum area of 15 sq. ft. each, lock-up cupboards for clothes; lavatory basins, w.c.'s and showers will be required.

(viii) *Nurses' station*

This should be positioned for ease of supervision. About 100 sq. ft. will be needed.

(ix) *Store(s)*

Provision must be made for day to day storage.

(x) *Cleaners' room*

A cleaners' room is required with a bucket sink, drainer, locker and space for mechanical cleaning equipment, brooms, buckets etc., 50 sq. ft. should suffice. Large departments, particularly those on more than one floor, will require more than one.

(xi) *Circulation space*

The corridors should be at least 7 ft. wide in the clear.

(*d*) *Dental suite* (if required)

(i) *Surgery*

The dental surgery should be not less than 13 ft. wide (window wall) by at least 12 ft. deep to accommodate the necessary equipment and leave space for movement of staff. A north to east aspect provides the best natural light and the window head should be as near the ceiling as possible.

A lavatory basin for the dental surgeon should be on the wall to the right of the dental chair and the surgery assistant should have a sink with draining board, and a worktop with space for an instrument steriliser to the left of the dental chair. Elbow-operated taps are advised at lavatory basins and sinks.

The equipment of the room includes a dental chair, a dental unit with possibly an x-ray unit attached, a cupboard for dangerous drugs and a lock-up instrument cabinet. A mobile instrument cabinet is sometimes preferred and where there are two or more surgeries it is sometimes convenient to have a portable x-ray machine. A desk and chair are required for the dentist.

(ii) *Recovery room*

This room can be shared between dental surgeries and should have a minimum area of 100 sq. ft. Direct access from the dental surgery is essential and there should be another door leading to the corridor. There should be a couch, chairs, a sink and rinsing bowls which can be mobile or in a fixed position.

(iii) *Workroom*

A small workroom is required equipped with a sink, worktop with fitted cupboards, and a point for an electric motor. A room of approximately 60 sq. ft. should be adequate for the work involved which will be mainly adjusting and polishing of dentures.

(iv) *Store(s)*

Storage space may be combined with the workroom.

(v) *Waiting space*

Sub-waiting space is required for patients and their companions.

(vi) *Circulation space*

The corridors should be at least 7 ft. wide in the clear.

B. Additional accommodation

General purpose consulting suites can be used satisfactorily for specialised clinics, in conjunction with suitably placed ancillary rooms, and unless a case can be made out for exclusive use of a suite of rooms by any particular specialty the general purpose suites should be used.

(*a*) *Treatment room*

Certain specialised clinics e.g. ophthalmic, where daily treatments may be given, require a treatment room for the exclusive use of the specialty. In some cases, a general purpose treatment room may be needed to supplement or take the place of an operating theatre for treatments such as orthopaedic manipulations, E.C.T. and some dermatological procedures which do not require to be carried out under strict aseptic conditions. The treatment room should be about 170 sq. ft.

(*b*) *Rooms for auxiliary and technical staff*

Accommodation may be required for dieticians, chiropodists, and surgical appliance fitters. A general purpose consulting room is suitable for their needs but it may be preferable to provide one or more rooms of about 120 sq. ft. which could be used by any of these staff. A lavatory basin is required. Storage space for special furniture and apparatus may be needed off the room.

(*c*) *Audiometry room* (E.N.T. clinic)

A sound insulated room may be needed for audiometry tests during ear, nose and throat clinics. Not less than 70 sq. ft. should be provided.

(*d*) *Electro-cardiographic room* (Cardiological clinic)

Cardiac clinics may require a room of about 200 sq. ft. where the electro-cardiograph apparatus can be permanently housed. The room should have a couch and chair for the patient and a wash hand basin.

There should be a separate room of about 100 sq. ft. for the technician to use for mounting, filing and storing. Some cardiogram records may be kept here or they may be in the central records department.

(*e*) *Electro-encephalogram room* (Psychiatric and neurological clinics, etc.)

A room of about 200 sq. ft. may be required as the technician's office and for housing the encephalogram apparatus. This room should contain a desk and chair for the technician.

An examination room of about 90 sq. ft. should be planned adjacent with a communicating door with a glass viewing panel to enable the technician to watch the patient under examination. This room will require a couch and a chair.

(*f*) *Refractionists' room* (Ophthalmic clinic)

Refractionists may wish to use the direct method of sight testing which will require a room with a minimum length of 21 ft. 6 ins. A room of approximately 240 sq. ft. would adequately serve two refractionists.

(*g*) *Orthoptists' room* (Ophthalmic clinic)

Where an orthoptist is working single-handed a room of approximately 120 sq. ft. is required. Where there is more than one orthopist it is usual for them to share a room allowing approximately 120 sq. ft. for each. The room should be equipped with desk, chairs, synoptophore, test types and lees screens. Most of the patients attending orthoptic clinics are children so it is desirable to have a special sub-waiting space for children adjacent to this room.

(*h*) *Ophthalmic examination room* (Ophthalmic clinic)

It may be advisable to have a separate examination room of about 100 sq. ft. for equipment, such as slit lamps, perimeters and bjerrum, hess or lees screens. This room can sometimes be shared between consulting rooms which avoids duplication of expensive equipment.

(*i*) *Central dental laboratory*

It is considered uneconomic to provide a dental laboratory in each hospital containing a dental suite and the tendency is to plan a central laboratory at one hospital which will serve the dental departments of several hospitals.

This laboratory should have a minimum area of 200 sq. ft. with an increase in size depending on the number of technicians employed. It should be equipped with a sink, work tops and storage cupboards. Separate bays (or rooms) should be provided for plaster work and polishing work, to prevent small particles of material spreading throughout the laboratory.

(*j*) *Dental office*

A room of about 100 sq. ft. may be required as an office for the dental staff. The dental records may be kept here.

(*k*) *Patients' preparation and recovery rooms*

One or more patients' preparation and recovery rooms may be required if there is no day ward. At least 100 sq. ft. should be provided.

(*l*) *Changing cubicles*

In certain clinics where consultation and examination are short and a larger proportion of the patients have to undress than at the average clinic changing cubicles may be required. Where patients may require assistance in dressing and undressing a minimum area of 15 sq. ft. is recommended. Suitable provision should be made for safeguarding patients' belongings.

(*m*) *Sisters' offices*

In addition to the departmental sister's office (see A(*a*)(vi)) additional offices may be required for sisters in charge of main divisions of the department. At least 100 sq. ft. will be required for each office.

(*n*) *Waiting space for children*

Where there are paediatric clinics or in circumstances where there are a considerable number of child patients attending other clinics it is desirable to provide a special waiting space for children. An area of at least 200 sq. ft. is required and sanitary facilities including a w.c. and a wash-hand basin should be planned adjacent.

(*o*) *Room or bay for patients waiting for ambulances*

A separate room or bay adjacent to the entrance may be required for those patients waiting for ambulances. About 120 sq. ft. may be needed.

V. Engineering services

Engineering services should be designed and installed to ensure ease of maintenance with the minimum interruption of services and disturbance to the working of the hospital while repairs are being carried out.

Meters for departmental costing purposes should be considered where these can be installed conveniently and inexpensively.

The following recommendations on mechanical and electrical installation relate to the general purpose suites and their ancillary rooms, the day wards, and related additional accommodation. The engineering services for the operating theatre suite (sections III(*b*) and IV(*b*) above) are referred to at the end of this Building Note.

Mechanical services

Heating and ventilation

General requirements

The requirements for heating in the out-patient department differ from those of the main hospital since the department is not in use at night and during week-ends.

The following table gives recommended heating design temperatures and ventilation rates during occupation based on an outside temperature of 30 °F.

	Temperature	*Air changes per hour*
Treatment rooms	65 °F	3*
Consulting and examination rooms .. .. Day wards, rooms for up-patients, changing spaces	65 °F	3
Waiting areas and corridors associated with them; offices, test rooms, nurses' supply rooms, sink, utility and sluice rooms, dental laboratory, staff rest room	65 °F	2
Entrance lobbies	60 °F	3
Linen stores, cleaners' room, staircases and corridors, lavatories (where separate from changing space) ..	60 °F	2
Equipment stores	50 °F	½

The above temperatures can be reduced to save running costs when the building is unoccupied.

Heating

The above conditions are usually met quite adequately by the conventional hot water heating system using radiators, but alternative heating units may be preferred in some of the individual rooms, such as fan assisted convectors in waiting areas where there may be excessive air change due to the frequent opening of doors.

Ceiling heating systems should conform to the recommendations of the Medical Research Council's Environmental Research Unit which may be found in the "Guide to current practice" of the Institution of Heating and Ventilating Engineers.

*Where in the absence of an operating theatre, the treatment room is used for minor surgery, it is desirable to provide six air changes per hour as described later.

Radiators should be placed below windows and against exposed walls to counteract cold air currents, with clear space beneath to facilitate floor cleaning by machines.

Summer heating will be required in such rooms as consulting, examination and treatment rooms where patients may be undressed. It is preferable that where heating is from a central hot water heating system, a separate circuit be provided so that these rooms can be heated when the general heating system is not in use. Alternatively, in a small building, thermostatically controlled electric heaters may be economic for summer use.

Ventilation

Where a treatment room requires mechanical ventilation, a fresh air supply filtered and warmed to the desired conditions should be introduced. Discharge from the room should be by a suitably placed low level grille with a lightweight flap valve, to the outside, while still maintaining a slightly pressurised condition in the room.

Simple mechanical extract fans, having low level discharge arrangements to the outside, should be provided in dirty utility rooms; the external vent should be protected against back pressure from the wind and be carried clear of the building.

Internal rooms and internal lavatories must be adequately ventilated. Systems using natural ventilation have been developed which in favourable circumstances may be considered as alternatives to systems using extract fans.

Particular care should be given to the type of opening window selected; top opening windows at high level should be provided with a "minimum setting" notch or other adjustment to allow air infiltration without draught to lightly clad patients. In ceiling heated rooms the incoming air should not be directed at the ceiling.

Hot and cold water and drinking water services

These are normally provided by connection to the main services of the hospital. Except in small departments where, for the hot water service, it may be more economic to have independent gas or electric water heaters.

Hot water storage capacity should be based on meeting the maximum requirements for two hours and the calorifier battery rating should be based on a three hour recovery period. Lever arm taps of the type having a mixed temperature outlet will generally be required except in changing rooms and lavatories, where normal pillar taps should be provided. For supplies to wash hand basins en suite with w.c.'s, spray taps may be fitted. In dental surgeries a cold water supply will be required to the rinsing bowl to each chair. A drinking water-point served from the mains should be provided in waiting spaces. The buffet bar will require a washing-up sink for crockery and cutlery and provision should be made for boiling cups, saucers and utensils, unless disposable cartons are to be used.

Sterilising equipment

It is assumed that normally sterilised supplies for the department will be prepared in a central sterile supply department. A small electrically operated steriliser for instruments may, however, be needed for example in the Eye, Dental, and Ear, Nose and Throat clinics. In the absence of a central supply system it will be necessary to provide a steriliser for bowls and instruments in the nurses supply room (see Section IV A.(*c*)). Sterilising equipment may also be needed for operating theatre suites. Steam sterilisers have a working pressure of 32 p.s.i. and to ensure that this is maintained at all times local steam services must be generously sized and be at a pressure of 45/50 p.s.i. The steam must be as dry as practicable but not superheated. Compartments for sterilisers should be large enough to provide adequate access for maintenance and be suitably ventilated to the exterior of the building to prevent the build up of heat.

Town gas

The decision to provide a gas service will depend on local needs and availability. The use of gas for burner points in test rooms is not essential.

Piped oxygen and suction

It is unlikely that the cost of complete installations can be justified for the out-patient department. Where, however, central piped systems exist nearby, they may be extended to operating theatres, anaesthetic rooms, day wards and recovery rooms.

Lifts

A lift will be required in out-patient departments of more than one storey; guidance on size, type and speeds of lift is given in another Building Note.

Electrical installation

General

The electrical installation should include wiring and equipment for general and special lighting, socket outlets, heating, ventilating, telephones, clocks and call systems.

Supply and distribution

Generally, the electrical supply should be provided by a sub-main circuit from the main intake and distribution centre to a switch room within the department. Distribution boards should be centrally placed to minimise the length of circuit wiring. They should preferably be accessible from corridors and fitted with locks where necessary. Space should be allowed for future additional units extra to the provision of some spare ways. H.R.C. fuses are recommended, particularly where the supply is obtained from a local transformer. Conduits and cables should generally be concealed, service ducts being provided wherever practicable.

Artificial lighting

The following table gives recommended values of general illumination for various rooms:—

Accommodation	*Average lumens/ft² recommended at working level*
Dental laboratories	25
Treatment, consulting examination and test rooms, ...	20
Doctors and sisters rooms, offices and records..	15
Day wards, tea bars, utility and up-patient rooms, waiting areas, staff rooms	10
Equipment and linen stores, changing spaces, reception, sluice and sink room	7
Corridors, staircases and entrance lobbies	5*†
Cleaners' room, lavatories	5*

The operating theatres will require lighting and power to the same standards as for main operating theatre suites (see Hospital Bulletin No. 1) but a shadowless lighting fitting having an 18″ reflector is usually considered to be adequate for out-patient department theatres.

In such rooms as consulting suites and treatment rooms, the lighting selected must ensure suitable colour definition.

In day wards the lighting fittings must not cause discomfort to patients in bed: brightness should be limited to avoid glare and the direct illumination should not extend beyond the foot of the patient's bed at bed height.

Bedhead lights should be adjustable, a simple on-off wall switch incorporated in the light fitting requires less maintenance than a cord pull switch but the latter is usually more convenient for the patient.

Wall mounted inspection lamps should have adequate movement and separate switches.

Corridor lighting fittings should be of the enclosed type. Staircase lights should be sited to enable easy cleaning and maintenance, and the switch positions should be carefully selected.

Special lighting will be required in eye testing rooms and for dental units. Red indicating lights should be provided on drug cupboard(s), and in the sister's room, to give visual indication when the cupboard is not locked, except where they might constitute a spark risk and an explosion hazard by contact with flammable vapours (see B.S.2881, 1961).

Mains voltage outlets

Sufficient 13 amp. universal type switched shutterd socket outlets, on ring circuits should be provided to allow each portable appliance which is likely to be used at the same time to be connected to a separate outlet.

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*This figure may be increased where adjacent intensities are high.

† The standard given is at floor level.

The following socket outlet distribution is suggested:-

Combined consulting/ examination rooms	2 outlets, near examination couch.
	1 twin outlet, for equipment (with indicating lights).
	2 outlets, for x-ray viewing screen and desk lamp.
Ophthalmic examination room	4 twin outlets equally spaced
Examination rooms	2 outlets, to suit couch position(s)
Reception	2 outlets
Consulting room	1 twin outlet for equipment (with indicating lights).
	2 outlets for x-ray viewing screen and desk lamp.
Single bed ward	1 outlet in addition to the one for bed position.
Multi bed ward	1 outlet for each bed position plus 1 outlet for general use.
Sister's room	1 twin outlet.
Nurse's station, tea bar	1 twin outlet.
Treatment rooms	2 twin outlets plus provision for fixed electrical apparatus.
Clean utility room	1 outlet for general use.
Dirty utility room	1 outlet for general use.
Sink room	1 outlet for general use.
Tea bar	1 twin outlet.
Waiting spaces/ corridors, etc.	Outlets to be provided to allow for the convenient use of domestic appliances flexible lead, assumed to be 30 ft. long.
Kitchen	To suit the number of appliances plus one or two for future requirements (depending on the size of rooms). Outlets should include indicating lights.

Socket outlets should be conveniently placed to serve electro medical apparatus or domestic equipment and so remove the need for the provision also of general purpose socket outlets. Electric heaters served from 13 amp fused plugs should have an indicating light to show when they are in use. The light may be on the socket outlet, plug or the electric heaters.

Telephones

Telephone facilities for internal and external calls are required in sisters' room, nurses' station, appointments and reception and for ambulance drivers. Telephones should be of desk pattern and for sisters and nurses they should be fitted in parallel with an indicating light which is easily visible.

One or more call boxes or booths with G.P.O. telephones should be sited in or adjacent to the main waiting space.

Electric clocks

Electric clocks will normally be required in waiting and reception areas, treatment rooms and offices. Where an impulse clock system exists, it should be extended, using silent clocks.

Staff location system

A wired staff-location system or a radio induction system should be provided as a part of the general staff location system of the hospital.

Patients' call system

The day ward will require facilities for patients to call the nurse; indicators and buzzers being provided at nurses' stations. A bell push to call the nurse should also be provided in patients' toilets adjoining ward accommodation.

Fire alarms and fire fighting equipment

Information on fire alarms and extinguishers is given in B.S. Codes of Practice and in the Ministry's circular on Hospital Fire Precautions H.M.(56)36. Advice on the fire fighting installation proposed should be sought from the local fire authority.

Operating theatre suites

The operating theatre suites will require engineering services to the same standards as for main operating theatre suites. The recommendations concerning these as set out in Hospital Building Bulletin No. 1 have, in some details, been revised as follows:—

Ventilation

Twenty air changes per hour are now recommended.

Sterilising equipment

A bottled supply of sterile water is now preferred to the use of hot and cold water sterilisers. A heated cupboard is required for supplies of warm sterile water.

Bowl and instrument sterilising should be done by fully automatic unjacketed autoclaves provided with steam condensing equipment to produce a vacuum of 25 ″Hg, steam being provided from the central source. For standby purposes, a small autoclave is preferred to the boiling water steriliser for instruments, but the latter is still required for the anaesthetist.

APPENDIX

TABLE 1

Basic accommodation

(*a*) *Consulting facilities*

The following examples show how the extent of the accommodation should be built up from the number of "doctor sessions". The accommodation needed for different numbers of sessions can be decided in proportion to those shown.

Number of consulting suites

It is desirable to get the maximum use from the accommodation available, by spreading the sessions over the week. Where this can be done, for calculation purposes one Type A suite of two combined consulting-examination rooms or one Type B suite of one consulting room and two examination rooms should be allocated per "doctor session" and to obtain the number of such rooms required it should be assumed that they are in full use for nine sessions a week out of a possible eleven. This allows for flexibility and expansion.

		Doctor sessions per week			
		36	72	108	144
		Number of consulting suites			
		4	8	12	16
Type of room	*Individual room size (sq. ft.)*	*Number of rooms*			
(i) Consulting suite:— Type A. Combined consulting-examination room	170	8	16	24	32
Type B. Consulting room	120	4	8	12	16
and Examination room	90	8	16	24	32
(ii) Clinical room	170	1	1	2	2
(iii) Clean utility room	170	1	1	2	2
(iv) Dirty utility room	110	1	1	2	2
(v) Test room	100	1	1	2	2
male w.c.	25	1	1	2	2
female w.c.	25	1	1	2	2
(vi) Sister's office	100	1	1	1	1
(vii) Reception and waiting (i) Entrance lobby					
(ii) Reception area	200	1	Increase by 100 sq. ft.	Increase by 150 sq. ft.	Increase by 200 sq. ft.
(iii) Main waiting space	150 sq. ft. per consulting suite	300 sq. ft.	600 sq. ft.	900 sq. ft.	1200 sq. ft.
(iv) Sub-waiting space		300 sq. ft.	600 sq. ft.	900 sq. ft.	1200 sq. ft.
(viii) Trolley and wheelchair store	150	1	Increase by 50 sq. ft.	Increase by 100 sq. ft.	Increase by 150 sq. ft.
(ix) Porters and ambulance drivers room	100	1	1	Increase by 50 sq. ft.	Increase by 50 sq. ft.
(x) Pram store	150	1	Increase by 50 sq. ft.	Increase by 100 sq. ft.	Increase by 150 sq. ft.
(xi) Patients sanitary facilities male					
female					
(xii) Staff sanitary facilities male					
female					
(xiii) Store(s) (general)	60 sq. ft. per consulting suite	× 4	× 8	× 12	× 16
(xiv) Cleaner's room	50	1	1	1	2

Note on waiting areas:—In this example it is assumed that the estimated attendance of patients per "doctor session" is 20 persons. About half this number will be waiting = 10 persons (this overall figure includes patients and companions).

Allowing an area of 15 sq. ft. per person the waiting space required for each consulting suite = 150 sq. ft.

The total waiting space for the consulting facilities is 150 sq. ft. multiplied by the number of consulting suites.

The division of the total waiting space into main waiting and groups of sub-waiting space will be dictated by planning considerations. This example assumes that the area is divided evenly between the main and sub-waiting spaces.

TABLE 2

Basic accommodation

(*b*) *Operating theatre suite*

Type of room	*Individual room size (sq. ft).*	*Number of theatres* 1	2
		Number of rooms	
(i) Operating theatre	324	1	2
(ii) Anaesthetic room	170	1	2
(iii) Scrub-up	100	1	2
(iv) Sterile supply room	120	1	area × 2
(v) Sink room	110	1	area × 2
(vi) Sister's office	100	1	1
(vii) Reception	200	1	Increase by 100 sq. ft.
(viii) Waiting space	150	1	1
(ix) Staff rooms			
m. changing space and lavatories			
Rest room	150	1	1
f. Changing space and lavatories			
Rest room	150	1	1
(x) Store(s)	125	1	Increase by 100 sq. ft.
(xi) Cleaner's room	50	1	1
(xii) Plant room	500	1	Increase by 200 sq. ft.

TABLE 3

Basic accommodation

(*c*) *Day ward*

Type of room	*Individual room size (sq. ft.)*	*Number of beds*			
(i) Bed space—single	120	8	12	16	20
multiple	80	*Number of rooms*			
(ii) Day and Dining space	300	1	Increase by 100 sq. ft.	Increase by 200 sq. ft.	Increase by 300 sq. ft.
(iii) Clean utility room	110	1	1	1	1
(iv) Dirty utility and sluice room	120	1	1	1	1
(v) Kitchen	120	1	1	1	1
(vi) Linen bay	50	1	1	1	1
(vii) Patients changing rooms male	165	1	Increase by 25 sq. ft.	Increase by 50 sq. ft.	Increase by 75 sq. ft.
female	165	1	Increase by 25 sq. ft.	Increase by 50 sq. ft.	Increase by 75 sq. ft.
(viii) Nurses station	100	1	1	1	1
(ix) Store(s)	60	1	Increase by 10 sq. ft.	Increase by 20 sq. ft.	Increase by 30 sq. ft.
(x) Cleaner's room	50	1	1	1	1

TABLE 4

Basic Accommodation

(*d*) *Dental suite*

Type of room	*Individual room size (sq. ft.)*	*Number of rooms*			
(i) Surgery	170	1	2	3	4
(ii) Recovery room	100	1	1	2	2
(iii) Workroom	60	1	1	area × 2	area × 2
(iv) Store	40	1	1	Increase by 20 sq. ft.	Increase by 20 sq. ft.
(v) Waiting space	150	1	1	Increase by 50 sq. ft.	Increase by 50 sq. ft.

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